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Notes ID: BA35868360A8D54385257869005490B9

From: Dave Dickerson/R1/USEPA/US

To: "Schroeder, Paul R ERDC-EL-MS" <Paul.R.Schroeder@usace.army.mil>

Copy To: anita.rigassio-smith@jacobs.com; "Ruiz, Carlos E ERDC-EL-MS" <Carlos.E.Ruiz@usace.army.mil>; "Fredette, Thomas ERD" <Thomas.J.Fredette@usace.army.mil>

Delivered Date: 05/14/2010 03:58 PM EDT

Subject: RE: LHCC Cap Carbon layer, etc.

OK - good, thats what I thought. Thanks - Dave

"Schroeder, Paul R ERDC-EL-MS" ---05/14/2010 03:54:47 PM---Dave, This is the cost to broadcast carbon at the end of the each year of disposal

From: "Schroeder, Paul R ERDC-EL-MS" <Paul.R.Schroeder@usace.army.mil>
To: Dave Dickerson/R1/USEPA/US@EPA, "Fredette, Thomas ERD" <Thomas.J.Fredette@usace.army.mil>, <anita.rigassio-smith@jacobs.com>
Cc: "Ruiz, Carlos E ERDC-EL-MS" <Carlos.E.Ruiz@usace.army.mil>
Date: 05/14/2010 03:54 PM
Subject: RE: LHCC Cap Carbon layer, etc.

Dave,

This is the cost to broadcast carbon at the end of the each year of disposal to strip the water column PCB concentration and control PCB fluxes from the exposed settled dredged material prior to capping, not to create a layer of carbon.

Paul

-----Original Message-----
From: dickerson.dave@epamail.epa.gov [mailto:dickerson.dave@epamail.epa.gov]
Sent: Friday, May 14, 2010 2:48 PM
To: Fredette, Thomas ERD; anita.rigassio-smith@jacobs.com
Cc: Ruiz, Carlos E ERDC-EL-MS; Schroeder, Paul R ERDC-EL-MS
Subject: RE: LHCC Cap Carbon layer, etc.

thanks Tom. Just to be clear, I assume this is for broadcasting carbon in the cell prior to capping to strip PCBs from the water column. But the subject line indicated maybe something else??

Dave

From: "Fredette, Thomas ERD" <Thomas.J.Fredette@usace.army.mil>

To: "Schroeder, Paul R ERDC-EL-MS" <Paul.R.Schroeder@usace.army.mil>

Cc: Dave Dickerson/R1/USEPA/US@EPA, "Ruiz, Carlos E ERDC-EL-MS" <Carlos.E.Ruiz@usace.army.mil>

Date: 05/14/2010 03:35 PM

Subject: RE: LHCC Cap Carbon layer, etc.

Using your high side carbon numbers I get

Carbon $20K
Labor $12K
Equip $15K

Sub-Total $47K
10% contingency
Total ~$51K

So for an annual cost about $50K or for two years $100K.

Probably a reasonable planning estimate. The key thing Dave needs is carbon
cost, so this hopefully provides what you need Dave.

Tom

-----Original Message-----
From: Schroeder, Paul R ERDC-EL-MS
Sent: Wednesday, May 12, 2010 10:34 PM
To: Fredette, Thomas ERD; Ruiz, Carlos E ERDC-EL-MS
Subject: RE: LHCC Cap Carbon layer, etc.

Tom,

Carlos and I have made some estimates for broadcasting AC.

The elutriate DOC is about 10 mg/L which would be diluted in about in half by
the CAD cell water. Therefore, we estimate that we would want a carbon dosage of about 15 mg/L for the CAD cell water. This would be about 15,000
lb of AC over the life of the project. The carbon would cost from $12,000 to
$20,000, depending on the type of carbon (GAC vs powder, virgin versus regenerated). It would take about 2 to 3 days to disperse the AC so with
prep time. I would assume about 20 man-days each year, or about $12,000 in
labor. It would require a barge, tug, tanks, mixers and pumps for a week
each year at a cost of about $15,000. With contingencies, the annual cost
would be about $40K to $45K for planning purposes.

Do these values make sense to you?

Paul

-----Original Message-----
From: dickerson.dave@epamail.epa.gov [
mailto:dickerson.dave@epamail.epa.gov]
Sent: Monday, May 10, 2010 1:18 PM
To: Fredette, Thomas ERD
Cc: Rigassio-Smith, Anita; Ruiz, Carlos E ERDC-EL-MS; Anderson, Mark J Jr
NAE; Iorio, Maryellen NAE; Schroeder, Paul R ERDC-EL-MS; Fox, Steve (New Bedford)
Subject: LHCC Cap Carbon layer, etc.

Thanks Tom. Any info you, Paul or Carlos can forward on costs of broadcasting AC would be helpful. We'd need them by the end of the week though in order to get them incorporated into the cost spreadsheets.

Also, I've reviewed the latest version of the model's tables and figures and
have no other comments on them.

Dave

From: "Fredette, Thomas ERD" <Thomas.J.Fredette@usace.army.mil>

To: Dave Dickerson/R1/USEPA/US@EPA, "Rigassio-Smith, Anita"
<Anita.Rigassio-Smith@jacobs.com>

Cc: "Anderson, Mark J Jr NAE"
<Mark.J.Anderson.Jr@usace.army.mil>,
"Iorio, Maryellen NAE"
<Maryellen.Iorio@usace.army.mil>, "Fox, Steve (New
Bedford)"
<Steve.Fox@jacobs.com>, "Ruiz, Carlos E
ERDC-EL-MS" <Carlos.E.Ruiz@usace.army.mil>, "Schroeder,
Paul R
ERDC-EL-MS"
<Paul.R.Schroeder@usace.army.mil>

Date: 05/07/2010 12:13 PM

Subject: RE: LHCC Cap Carbon layer - Reactive Core Mats

I'll let Paul and Carlos chime in as needed (as you requested below),
but
certainly the recommendation that was in the draft report should not be
interpreted to indicate the installation of a reactive core mat of any
sort.
In fact, that particular recommendation was deleted in the latest report
revision as the body of the report does not discuss it and therefore it
was a
non sequitur, to some degree, in the conclusions.

That being said, however, as a non-report recommendation, use of
activated
carbon application could be considered as one of the management
approaches.
However we were envisioning something that might involve broadcast
spreading

of a granulated or non-granulated form. One application approach that is
currently being researched is Sedimite.

http://www.menziecura.com/

http://www.estcp.org/Technology/ER-0835-FS.cfm

Paul or Carlos might have ballpark cost estimates for AC handy, but if not we
could do a bit more investigation as to what they might be.

Tom

-----Original Message-----
From: dickerson.dave@epamail.epa.gov [
mailto:dickerson.dave@epamail.epa.gov]
Sent: Friday, May 07, 2010 11:35 AM
To: Rigassio-Smith, Anita
Cc: Anderson, Mark J Jr NAE; Iorio, Maryellen NAE; Fox, Steve (New Bedford);
Fredette, Thomas ERD
Subject: RE: LHCC Cap Carbon layer - Reactive Core Mats

Anita - since the losses from the CAD are mainly during placement and NOT after capping I don't think using activated carbon in the cap will be
needed. My apologies for not making this clearer sooner. But we should add
a cost, even if just a placeholder, for AC addition between placement seasons, or between placement and capping years.

Tom - can you pass this question past the ERDC folks? i.e., any thoughts
on the means and methods for AC addition into the CAD cell btw. placement and capping seasons? any idea of cost?

thanks - Dave

From: "Rigassio-Smith, Anita" <Anita.Rigassio-Smith@jacobs.com>

To: Dave Dickerson/R1/USEPA/US@EPA

Cc: "Fox, Steve (New Bedford)" <Steve.Fox@jacobs.com>,
"Maryellen.Iorio@usace.army.mil"
<Maryellen.Iorio@usace.army.mil>,

"Mark.J.Anderson.Jr@usace.army.mil"
<Mark.J.Anderson.Jr@usace.army.mil>,
"thomas.j.fredette@usace.army.mil"
<thomas.j.fredette@usace.army.mil>

Date: 05/06/2010 05:01 PM

Subject: RE: LHCC Cap Carbon layer - Reactive Core Mats

Dave,

Installation of the reactive core mats added ~$2.2M to the capping cost.

I haven't completed the revised estimates yet, but it is likely that the only
funding scenario where filling the LHCC will take more than one year (and
capping the third year) is the $15M/year. Using the phase 3 dredging rates
we discussed, the mechanical dredging cost is ~$15M.

I will need more information on what ERDC is envisioning before I can cost
carbon in-between layers. Let me know how you want to proceed.

Anita

-----Original Message-----
From: dickerson.dave@epamail.epa.gov [
mailto:dickerson.dave@epamail.epa.gov]
Sent: Thursday, May 06, 2010 4:09 PM
To: Rigassio-Smith, Anita
Cc: Fox, Steve (New Bedford); Maryellen.Iorio@usace.army.mil;
Mark.J.Anderson.Jr@usace.army.mil; thomas.j.fredette@usace.army.mil
Subject: Re: LHCC Cap Carbon layer - Reactive Core Mats

Anita - thanks, this is helpful. But rereading the draft ERDC model the
suggestion was to use AC in the CAD cell between placement seasons to
minimize season to season losses PRIOR to capping.

How much was the cost you developed for the cap with reactive core mat?

Maybe we should have a conference call with the ERDC folks to resolve this.

Dave

From: "Rigassio-Smith, Anita" <Anita.Rigassio-Smith@jacobs.com>

To: Dave Dickerson/R1/USEPA/US@EPA

Cc: "Fox, Steve (New Bedford)" <Steve.Fox@jacobs.com>

Date: 05/06/2010 03:40 PM

Subject: LHCC Cap Carbon layer - Reactive Core Mats

Hi Dave,

In response to your request for adding a cost to include activated carbon with the LHCC cap, I did some research and have come up with a technology that I have discussed with folks here and feel is a feasible and effective solution for our application. I have also developed a cost with input from the vendor. So that you can get an idea of the technology, I have attached an article that I found useful in explaining the construction and installation of the reactive carbon mats. Evidently, SES has already used this technology on the Island End River Sediment Cap project in Boston. Also, the vendor tells me that there will be another installation of this technology in Lowell, MA later this summer, and has invited us to observe the process.

Let me know if you think this will satisfy the request to include activated carbon in the cap to minimize the potential for PCB flux through the cap to the water column, or any other thoughts you may have.

Anita

Anita Rigassio Smith | JACOBS | 103 Sawyer Street, New Bedford, MA 02532 | 508.996.5462 x210 | 508.802.7320 (cell) | www.JACOBS.com

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